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7590 11/17/2005		•	EXAMINER	
Reising Ethington Barnes Kisselle Learman & McCulloch			THANH, QUANG D	
201 West Big Beaver Road Suite 400		•	ART UNIT	PAPER NUMBER
PO Box 4390 Troy, MI 48099-4390			3764	
			DATE MAILED: 11/17/2005	

Please find below and/or attached an Office communication concerning this application or proceeding.

3

		Application No.	Applicant(s)				
Office Action Summary		10/009,050	RHODES ET AL.				
		Examiner	Art Unit				
		Quang D. Thanh	3764				
Period fo	The MAILING DATE of this communication app or Reply	ears on the cover sheet with the c	orrespondence address				
- Exte after - If NO - Failu Any	IORTENED STATUTORY PERIOD FOR REPLY CHEVER IS LONGER, FROM THE MAILING DATE of time may be available under the provisions of 37 CFR 1.13 SIX (6) MONTHS from the mailing date of this communication. Depend for reply is specified above, the maximum statutory period with the set or extended period for reply will, by statute, reply received by the Office later than three months after the mailing ed patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION  16(a). In no event, however, may a reply be tim  iill apply and will expire SIX (6) MONTHS from the control of the	lely filed the mailing date of this communication.				
Status	·						
1)🖂	Responsive to communication(s) filed on 27 Oc	tober 2005 and 09 August 2005					
2a)	This action is <b>FINAL</b> . 2b)⊠ This action is non-final.						
3)	3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.						
Dispositi	on of Claims						
4)🖂	4)⊠ Claim(s) <u>1-17 and 19-26</u> is/are pending in the application.						
	4a) Of the above claim(s) is/are withdrawn from consideration.						
5)	Claim(s) is/are allowed.	mom conditional.					
	Claim(s) 1-17 and 19-26 is/are rejected.						
	7) ☐ Claim(s) is/are objected to.						
	8) Claim(s) are subject to restriction and/or election requirement.						
	on Papers	1					
	The specification is objected to by the Examiner.						
10)	The drawing(s) filed on is/are: a) access	-4					
/	10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.						
	Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
11) 🔲 T	Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
	nder 35 U.S.C. § 119	miner. Note the attached Office A	CCTION OF TORM PTO-152.				
14)EU 7 2)[5	12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a)⊠ All b)□ Some * c)□ None of						
•	/ <b>_</b> // <b>_</b> // // // // // // // // // // // // //						
	1. Certified copies of the priority documents i	nave been received.					
,	2. Certified copies of the priority documents have been received in Application No						
•	3. Copies of the certified copies of the priority	documents have been received	in this National Stage				
* Se	application from the International Bureau (PCT Rule 17.2(a)).						
	* See the attached detailed Office action for a list of the certified copies not received.						
Attachment(s	•						
1) Notice	A) I Interview Summary (DTO 443)						
2) Notice 3) Informa	Notice of Draftsperson's Patent Drawing Review (PTO-948)  Paper No(s)/Mail Date						
Paper I	☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  Paper No(s)/Mail Date  5) ☐ Notice of Informal Patent Application (PTO-152)  6) ☐ Other:						

### **DETAILED ACTION**

# Continued Examination Under 37 CFR 1.114

- 1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/9/2005 has been entered.
- 2. This office action is responsive to the amendment filed on 8/9/2005. As directed by the amendment: claims 1 and 20 have been amended; and claim 18 has been canceled. Thus, claims 1-17, and 19-26 are presently pending in this application.

## Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

- 3. Claims 1, 20 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi (4,622,706) in view of Thomas et al. (6,212,719).
- 4. Re claims 1 and 20, Takeuchi discloses a massage method comprising the steps of: providing a seat (the air mat can by laid on a chair as disclosed in the abstract, thus would serve as a chair cushion thereby "providing a seat") including more than one expandable chambers 3 (fig. 1), a pressure system 8 and an exhaust system 9 (fig. 1), a

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controller 25 (fig. 26, col. 11, line 65 to col. 12, lines 9) configured to operate the pressure and exhaust system according to multiple selectable predetermined control index sequences (sequences 1,2, 4 and 5 in fig. 39); selecting a massage sequence by selecting one of the control index sequences (selecting one of the sequences in figs. 39) causing the controller to alternately produce inflow of fluid to each chamber by fluid communication between the selected chambers, and produce an outflow of fluid from each of the selected chambers by causing the exhaust system (discharge pump 9) to actively draw fluid from the chambers (fig. 1, col. 5, lines 31-38). Although Takeuchi teaches that the expandable chambers can be incorporated into an air mat (fig. 2) or an arm cuff (fig. 3), it is silent regarding the expandable chambers being incorporated into a seat. However, Thomas teaches a similar air massager cushioning device having a plurality of expandable chambers 28 that can be incorporated into a mattress (fig. 2), a seat cushion (fig. 14), a cuff apparatus (fig. 17-18) or incorporated in a lounge chair (fig. 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to incorporate the Takeuchi's device into a seating device such as a chair, as suggested and taught by Thomas, for the purpose of providing continuous overall cushioned support to the user seated in the seating device while alternating the areas of supporting contact portions, thus would improve blood circulation thereby reduce medical problems and fatigue caused by prolonged seating.

5. Re claim 23, Takeuchi discloses the exhaust system including an exhaust pump 9 (fig. 1) connected to the controller (col. 7, lines 17-22) and operable to draw fluid from selected chambers (fig. 1, col. 5, lines 31-38).

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- 6. Claims 1-4, 6, 9, 16, 19-23, 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable in view of Thomas et al. (6,212,719) over Bullard (4,865,020)
- 7. Re claims 1, 6 and 20, Thomas teaches a massage method and an air massager cushioning device having a plurality of expandable chambers (glands 28/48) that can be incorporated into a mattress 20 (fig. 2), a seat cushion 12 (fig. 14), a cuff apparatus (fig. 17-18), or into a lounge chair 200 (fig. 16), the method comprising the steps of: providing a seat 12 or 200 incorporating more than one expandable chambers (fig. 14 and fig. 16) in a back 203/204 and seat support 205-207 (fig. 16); a pressure system (having an inflation means 130, col. 15, lines 32-44) and an exhaust system (means having the capability of rapidly deflating the plurality of glands, col. 22, lines 50-54), a controller (control means 134, col. 15, line 31 to col. 16, line 3) configured to operate the pressure and exhaust system. Thomas does not disclose that the controller operate the device according to a selectable massage control index sequences and is silent regarding the exhaust system having a means for actively drawing fluid from those chambers. However, Bullard discloses a massage method using similar multiple pressure cuffs that can be inflated and deflated sequentially to promote blood circulation to a body part thereby simulating a massaging action, comprising the steps of: providing an apparatus including more than one expandable chamber 1A-D to 7A-D (fig. 1A and 3), a pressure system 23 and an exhaust system (E1-7 and 29, fig. 3), a controller (electric control circuit in fig. 4, col. 6, lines 31-41) configured to operate the pressure and exhaust system according to multiple selectable predetermined control index sequences (a chart showing 5 sequences in col. 4 and peristaltic sequences disclosed

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in col. 8, lines 38-58); selecting a massage sequence by selecting one of the control index sequences (selecting one of the 5 sequences in col. 4) causing the controller to alternately produce inflow of fluid to each chamber by fluid communication between the selected chambers, and produce an outflow of fluid from each of the selected chambers by causing the exhaust system (vacuum tank 29) to actively draw fluid from the chambers (fig. 3, col. 7, line 65 to col. 8, line 2). Since Thomas already teaches that the massager cushion device has the capability of rapidly inflating and deflating the plurality of glands at different times to create a massage effect for massaging the body part of the user (col. 15, lines 25-39), therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to provide Thomas' control means with a multiple selectable predetermined control index sequences, as suggested and taught by Bullard, for the purpose of providing continuous overall cushioned support to the user seated in the seating device while sequentially alternating the areas of supporting contact portions, thus would greatly improve blood circulation thereby reduce medical problems and fatigue caused by prolonged seating, and for the purpose of providing various alternatives sequential inflation and deflation of the device thereby creating a massage effect in a desirable manner for massaging the body part of a user in a particular sequence that would suit the user's need.

With respect to the limitation "actively drawing fluid from those chambers", even though Thomas teaches a means having the capability of "rapidly deflating" the plurality of glands (col. 22, lines 50-54), it does not explicitly teach an exhaust pump for actively withdrawing fluid. However, Bullard teaches that a vacuum tank 29 can be included in

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the apparatus and arranged together with a pump 20 in such a way (fig. 3) that air from each chamber could be actively withdrawn and evacuated quickly (col. 7, line 65 to col. 8, line 2). In this mode, the air chambers deflate more rapidly and can be completely deflated without external pressure being applied to them. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to provide the Thomas' exhaust system with a pump, as suggested and taught by Bullard, for the purpose of withdrawing forcibly and rapidly the air out of the chamber (col. 7, line 65 to col. 8, line 2) and thus providing a faster and more complete deflation when needed.

8. Re claims 2-4, Bullard discloses the step of providing a pressure system that includes a source of pressurized fluid 23 and a supply valve 25 (fig. 3) connected to the controller for controlling fluid flow from the source of pressurized fluid to each of the expandable chambers; providing each chamber with an exhaust valve E1-E7 connected to the controller for controlling the fluid flow from a previously inflated expandable chamber (fig. 3); and operating the supply and exhaust valves to produce individual chamber to chamber inflation followed by chamber to chamber deflation (figs. 3 and 5, col. 7, line 65 to col. 8, line 2); and a common exhaust provided with a relief valve 27 (fig. 3, col. 6, lines 9-12), providing fluid communication 26 between the expandable chambers and the common exhaust, and opening the common exhaust in accordance with the massage index sequence (col. 6, lines 1-12); the combined references would have included a pressure pump (inflation means 130) and an exhaust pump 20/29 as mentioned above and providing fluid communication 28 between selected chambers

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and the exhaust pump; and operating the pump to evacuate the selected chambers

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(Bullard, fig. 3, col. 7, line 65 to col. 8, line 2).

9. Re claim 9, Thomas discloses the step of providing the chambers as a series of

zones (fig. 16). Additionally, Bullard also discloses the step of providing the chambers

as a series of zones (in this case, each chamber is considered as a zone and the

selected chambers 1A to 7A are collectively viewed as a series of zones), and the step

of selecting a massage sequence includes selecting a massage index sequence that

first inflates each of the zones in a series fashion then deflates each of the zones in a

reverse series fashion (sequence 5, col. 5, lines 6-24).

10. Re claim 16, Bullard discloses a pressure sensor 22 in fluid communication with

each chamber and connected to the controller; and the step of selecting massage

intensity includes selecting a massage index sequence that achieves a selected

variable target pressure within each selected chamber by increasing fluid pressure in

each chamber only until the controller receives respective signals from the pressure

sensors indicating that their respective target pressures have been reached (col. 7, lines

20-38).

11. Re claim 19, Bullard discloses an exhaust system that includes an exhaust pump

20 (drawing air from vacuum tank 29); and providing fluid communication 26/28

between selected chambers to be deflated and the exhaust pump; and operating the

pump to evacuate the selected chambers (col. 7, line 65 to col. 8, line 2).

12. Re claims 21-23, Bullard discloses a source of pressurized fluid 23 connected

by supply paths 26 to respective supply valves P1-P7 positioned to selectively provide

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fluid communication between each expandable chamber and the source of pressurized fluid (fig. 3); the exhaust system includes exhaust valves E1-E7 (fig. 3) connected to each respective chamber and configured to control the fluid flow from the respective chambers; a controller (electric control circuit in fig. 4) is operatively connected to the supply and exhaust valves and is configured to inflate selected chambers by opening corresponding ones of the supply valves and deflate selected chambers by opening corresponding ones of the exhaust valves and (col. 6, lines 31-41); the exhaust valves E1-E7 are distinct from the supply valves P1-P7 and the fluid supply paths (fig. 3) to minimize dwell time between inflation and deflation; (claim 22) a controller is connected to the pressure and exhaust systems and configured to control massage sequence by alternately operating the pressure and exhaust systems for selected chambers according to a predetermined massage control index sequences (5 sequences in col. 4), and control massage intensity by allowing fluid pressure within the selected chambers to increase only until a selected variable target pressure is reached (col. 7, lines 20-38); (claim 23) the exhaust system includes an exhaust pump 20 connected to the controller and operable to draw fluid from selected chambers (fig. 3, col. 7, line 65 to col. 8, line 2).

13. Re claims 25-26, the combined references disclose a seat (Thomas: fig. 16) comprising: more than one expandable chamber (Thomas: fig. 16; Bullard: fig. 1A and 3); a pressure system 23 connected to each expandable chamber and configured to provide fluid into the expandable chambers, an exhaust system 29 including separate exhaust valves E1-E7 connected to each respective expandable chamber and

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configured to produce an outflow of fluid from the expandable chambers through the exhaust valves (Bullard, fig. 3, col. 7, line 65 to col. 8, line 2); and a controller connected to the pressure and exhaust systems and configured to control massage sequence by alternately operating the pressure and exhaust systems for selected chambers and operating selected ones of the exhaust valves according to a predetermined massage control index sequence (5 sequences in col. 4); and selecting massage intensity by allowing fluid pressure within the selected chambers to increase only until a selected variable target pressure is reached (col. 5, line 1-2, and col. 7, lines 20-38).

- 14. Claims 1-8,10-15, 17, 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillen, Jr. et al. (5,211,162) in view of Thomas et al. (6,212,719) and further in view of Bullard.
- 15. Re claims 1-2, 6, 19-20 and 23, Gillen discloses a massage method (claims 1 and 20) comprising the steps of: providing a body support system including more than one expandable chamber 51A-58A, a pressure/exhaust system 15 with pressure pump 17 and exhaust valve 21V-28V, a controller 30 (fig. 3) configured to operate the pressure/exhaust system according to multiple selectable predetermined control index sequences (3 sequences including single, double and triple-chambers as shown in figs. 9-11), selecting a massage sequence by selecting one of the control index sequences (buttons of keypad 31 is pressed in menu 2 to select any one of the sequences for the single, double and triple-chambers, figs. 9-11, col. 9, lines 7-11) causing the controller

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to alternately produce inflow of fluid to each chamber by fluid communication between the selected chambers and the pressure system, and produce an outflow of fluid from each of the selected chambers.

Gillen does not disclose that the expandable chambers are incorporated into a seat. However, Gillen teaches that the expandable chambers are incorporated into a mattress, and Thomas teaches a similar air massager cushioning device having a plurality of expandable chamber 28 that can be incorporated into a mattress (fig. 2) just like Gillen's device, or incorporated into a lounge chair having expandable chambers in a back and seat support (fig. 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to incorporate the Gillen's device into a seating device such as a chair, as suggested and taught by Thomas, for the purpose of providing continuous overall cushioned support to the user seated on the seating device while alternating the areas of supporting contact portions, such that it would mobilize the spine, stretch and relax the musculature and soft tissue of the user's back thereby reducing medical problems and fatigue caused by prolonged seating.

Gillen lacks the step of "actively draw fluid from the chambers". However, Bullard teaches a similar massage method using multiple pressure chambers that can be inflated and deflated sequentially to promote blood circulation to a body part thereby simulating a massaging action and that a vacuum tank 29 can be included in the apparatus and arranged together with a pump 20 in such a way (fig. 3) that air from each chamber could be actively withdrawn and evacuated quickly (col. 7, line 65 to col. 8, line 2). In this mode, the chambers deflate more rapidly and can be completely

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deflated without external pressure being applied to them. Bullard further discloses a pressure system that includes a source of pressurized fluid 23 and a supply valve 25 (fig. 3) connected to the controller for controlling fluid flow from the source of pressurized fluid to each of the expandable chambers; providing each chamber with an exhaust valve E1-E7 connected to the controller for controlling the fluid flow from a previously inflated expandable chamber (fig. 3); and operating the supply and exhaust valves to produce individual chamber to chamber inflation followed by chamber to chamber deflation (figs. 3 and 5, col. 7, line 65 to col. 8, line 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to include an exhaust system having a pump in the Gillen's device, as suggested and taught by Bullard, for the purpose of discharging forcibly and quickly the air out of the chamber (col. 7, line 65 to col. 8, line 2) and thus providing a faster and more complete deflation when needed.

16. Re claims 3-4, 19 and 23, Gillen discloses a common exhaust provided with a relief valve 14 (fig. 3, col. 5, lines 61-64); providing fluid communication 18 between the expandable chambers and the common exhaust; and opening the common exhaust in accordance with the massage index sequence (col. 5, lines 44-64); (claims 4,19 and 23) the combined references would have included a pressure pump and an exhaust pump as mentioned above and providing fluid communication 28 between selected chambers to be deflated and the exhaust pump; and operating the pump to evacuate the selected chambers (Bullard, fig. 3, col. 7, line 65 to col. 8, line 2).

- 17. Re claims 5, 7-8, and 24, Gillen discloses (claims 5 and 24) the step of providing a user initiated switch (keypad 31, fig. 3), a range of desired massage index sequences (3 sequences including single, double and triple-chambers as shown in figs. 9-11, and operating the switch to select one of the desired massage index sequences (buttons of keypad 31 is pressed in menu 2 to select any one of the sequences for the single, double and triple-chambers, figs. 9-11, col. 9, lines 7-11); (claim 7) operating (knob 14A) the pressure system to equalize the pressure between predetermined ones (col. 9, lines 23-27); (claim 8) providing a pressure sensor 20, multiple valves 21V-28V and a pump 17, a micro-controller 33 (col. 6, lines 12-14) responding to the pressure sensor 20 to initially inflate the chambers with all the valves initially opening prior to cyclically connecting each chamber to the pressure source (col. 6, lines 23-32).
- 18. Re claims 10-11 and 13, Gillen teaches that if a single chamber option is elected, each of chambers 51A-58A is inflated sequentially. Moreover, Gillen also teaches that if double or triple-chamber option is elected, the chambers are sequentially inflated in a staggered manner (col. 9, lines 11-17), and thus producing overlapping sequencing inflation and deflation (col. 11, lines 18-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to include various alternatives sequential inflation and deflation in operation of the device as claimed, for the purpose of providing desirable manner in which the user's back can be massaged in a particular sequence that would suit the user's need.
- 19. Re claims 12 and 14, the combined references disclose the claimed invention except that it does not explicitly reveal various sequencing of the inflation and deflation

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of the chambers as claimed. However, Gillen teaches that if a single chamber option is elected, each of chambers 51A-58A is inflated sequentially. Moreover, Gillen also teaches that if double or triple-chamber option is elected, the chambers are sequentially inflated in a staggered manner (col. 9, lines 11-17), and thus producing overlapping sequencing inflation and deflation (col. 11, lines 18-58). Gillen's Fig. 10 illustrates an example of inflating the first cell 51A between 0-6 seconds and equalizing first 51A and second 52A cells between 3-6 seconds, deflating the first cell after 6 second (col. 10. lines 34-68). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to include various alternatives sequential inflation and deflation in operation of the device, as suggested and taught by Gillen, for the purpose of providing a wide variety desirable massaging types in which the user's back can be massaged in a particular sequence that would suit the user's need. Given the structural features that have been demonstrated in the art, such as the microprocessor controller capable of producing a wide variety desirable sequences, it is well within the knowledge of a skilled artisan to be capable of using the prior art's device to provide various alternatives sequential inflation and deflation as claimed by the present invention.

20. Re claims 15,17, 21-22, Gillen discloses (claim 15) the step of selecting massage intensity includes selecting a massage index sequence that achieves a selected variable target pressure within each selected chamber by scaling inflation time (fig. 9 shows scaling time of 6 seconds for each chamber); (claim 17) the step of selecting massage sequence and massage intensity are accomplished by selecting a single massage control index sequence (fig. 9); (claim 21) the combined references (as

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discussed above) discloses a source of pressurized fluid 23 connected by supply paths 26 to respective supply valves P1-P7 positioned to selectively provide fluid communication between each expandable chamber and the source of pressurized fluid (Bullard fig. 3); the exhaust system includes exhaust valves E1-E7 (fig. 3) connected to each respective chamber and configured to control the fluid flow from the respective chambers; a controller (electric control circuit in fig. 4) is operatively connected to the supply and exhaust valves and is configured to inflate selected chambers by opening corresponding ones of the supply valves and deflate selected chambers by opening corresponding ones of the exhaust valves and (col. 6, lines 31-41); the exhaust valves E1-E7 are distinct from the supply valves P1-P7 and the fluid supply paths (fig. 3) to minimize dwell time between inflation and deflation; (claim 22) Gillen discloses a controller 30 (fig. 3) connected to the pressure/exhaust system and configured to control the massage sequence by alternately operating the pressure/exhaust system according to a predetermined control index sequences (3 sequences including single, double and triple-chambers as shown in figs. 9-11); and controlling massage intensity by allowing pressure within the selected chambers to increase only until a selected variable target pressure is reached (via knob 14A, col. 9, lines 23-27).

## Response to Arguments

21. Applicant's arguments filed 10/27/05 have been considered but are moot in view of the new ground(s) of rejection.

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### Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang D. Thanh whose telephone number is (571) 272-4982. The examiner can normally be reached on Monday-Thursday & alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Cronin can be reached on (571) 272-4536. The Central FAX phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for all communications.

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